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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,922	03/27/2001	D. Amnon Silverstein	10992483	4275

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

NGUYEN, LUONG TRUNG

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/818,922

Applicant(s)

SILVERSTEIN, D. AMNON

Examiner

LUONG T. NGUYEN

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,5,8,9,11 and 13-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4,5,8,9,11 and 13-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 4-5, 8-9, 11, 13-15 filed on 1/27/2005 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

2. Claims 11, 13-14 are objected to because of the following informalities:

Claim 11 (lines 10-11), "a liquid crystal filter" should be changed to --the liquid crystal filter--.

Claims 13-14 are objected as being dependent on claim 11.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-5, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (US 5,940,126) in view of Kobayashi (US 2001/0004298) further in view of Ooshima et al. (US 6,674,462).

Art Unit: 2612

Regarding claim 4, Kimura discloses a camera comprising a left lens (lenses 5L, figure 5, column 5, lines 33-45); a right lens (lenses 5R, figure 5, column 5, lines 33-45); a light sensor array (charge-coupled device 520, figure 5, column 5, lines 33-45).

Kimura fails to specifically disclose a polarizing beam splitter for combining the light from the left lens system and light from the right lens system; and a polarization filter for selecting light from the left lens system and light from the right lens system; and a control unit for controlling the polarization filter to select light from the left lens system and light from the right lens system.

However, Kobayashi teaches an optical system for photographing stereoscopic image, which includes a polarized beam splitter and a polarizing filter (sections [0006], [0007], [0010]; and the polarizing filter is rotated to change the amounts of light based on right and left parallax images, so that light beams passing respectively through optical paths for the right and left parallax images are alternately led to the image sensor (section [0007]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kimura by the teaching of Kobayashi in order to provide a stereoscopic image photographing optical system which has high optical performance without color unevenness and is capable of easily obtaining a good stereoscopic image (section [0013]).

Kimura and Kobayashi fail to specifically disclose the polarization filter is a liquid crystal device. However, Ooshima et al. discloses the polarization filter uses a special glass such as liquid-crystal shutter (column 1, lines 29-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kimura and

Art Unit: 2612

Kobayashi by the teaching of Ooshima et al. in order to obtain the time-division display of right and left images (column 1, lines 30-33).

Regarding claim 5, Kimura discloses a sensor array (charge-coupled device 520, figure 5, column 5, lines 33-45).

Regarding claim 8, all the limitations are contained in claim 4, therefore, see Examiner's comment regarding claim 4.

5. Claims 9, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (US 2001/0004298) in view of Ooshima et al. (US 6,674,462).

Regarding claim 9, Kobayashi discloses a method of capturing a left image and a right image of a scene, the method comprising focusing light from a left lens system (lens unit G1L, figure 1, section [0038]) on a sensor array (image plane FP, figure 1, sections [0038], [0039]); capturing, using the sensor array, the left image at a first instant in time (figure 1, sections [0038]); focusing light from a right lens system (lens unit G1R, figure 1, section [0038]) on the sensor array (image plane FP, figure 1, sections [0038], [0039]); capturing, using the sensor array, the right image at a second instant in time using the sensor array (figure 1, sections [0038]); using an electrically controllable filter to selectively capture said left image and said right image (the polarizing filter is rotated to change the amounts of light based on right and left parallax images, so that light beams passing respectively through optical paths for the right and left parallax images are alternately led to the image sensor (section [0007])).

Kobayashi fails to specifically disclose a liquid crystal filter. However, Ooshima et al. discloses the polarization filter uses a special glass such as liquid-crystal shutter (column 1, lines 29-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kobayashi by the teaching of Ooshima et al. in order to obtain the time-division display of right and left images (column 1, lines 30-33).

Regarding claim 15, Kobayashi discloses the left light is focused on the sensor array by a polarization beam combiner and a polarization filter (figure 1, section [0006]).

6. Claims 11, 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (US 2001/0004298) in view of Carter (US 4,761,066) further in view of Ooshima et al. (US 6,674,462).

Regarding claim 11, Kobayashi discloses a method of capturing a left image and a right image of a scene, the method comprising directing left polarized light from a left lens system (lens unit G1L, figures 1, 7, sections [0038], [0063], [0064]) on a sensor array (image plane FP, figure 1, sections [0038], [0039]); directing right polarized light from a right lens system (lens unit G1R, figures 1, 7, sections [0038], [0063], [0064]) on the sensor array (image plane FP, figure 1, sections [0038], [0039]); selecting the left polarized light to capture the left image using the sensor array (section [007]); selecting the right polarized light to capture the right image using the sensor array (section [007]).

Kobayashi fails to specifically disclose the light polarized in a second direction, orthogonal to the first direction. However, Carter teaches a stereoscopic optical system, in which

Art Unit: 2612

the light rays 44 and 46, after pass through filters 38 and 40, respectively, are polarized in directions 52 and 54, respectively; the directions 52 and 54 are mutually orthogonal polarization directions (figures 2-3, column 5, lines 19-47). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kobayashi by the teaching of Carter in order to produce perspective components characterized by mutually orthogonal linearly polarized light. This allows the perspective components to be viewed exclusively (column 2, lines 25-33).

Kobayashi and Carter fail to specifically disclose a liquid crystal filter. However, Ooshima et al. discloses the polarization filter uses a special glass such as liquid-crystal shutter (column 1, lines 29-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kobayashi and Carter by the teaching of Ooshima et al. in order to obtain the time-division display of right and left images (column 1, lines 30-33).

Regarding claim 13, Kobayashi discloses combining the left polarized light and the right polarized light (combining optical element P, figure 1, section [0038]).

Regarding claim 14, Kobayashi discloses a polarized beam splitter combines the left polarized light and the right polarized light (combining optical element P, figure 1, sections [0010], [0038]).

Conclusion

Art Unit: 2612

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUONG T NGUYEN whose telephone number is (571) 272 - 7315. The examiner can normally be reached on 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (571) 272 7308. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2612

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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06/08/05


AUNG MOE
PRIMARY EXAMINER